

## Charging instruction for CryoSure® LN2

CryoSure® LN2 1, CryoSure® LN2 2, CryoSure® LN2 10  
For -150 °C shipments

**Envirotainer°**  
Precision with Purpose



*Product picture shows exemplary CryoSure® LN2 2.*

### CRYOSURE® LN2 LIQUID NITROGEN CHARGING INSTRUCTION

CryoSure® LN2 offers precise temperature control for cryogenic temperatures as low as below -150 °C for up to 35 days by using advanced insulation materials and proven dry shipper technology. With a three-layer system designed to withstand external influences, CryoSure® LN2 ensures the safety and efficacy of cell & gene therapies throughout the transportation and storage process, minimizing the risk of product loss or compromise. This charging instruction is valid for **CryoSure® LN2 1**, **CryoSure® LN2 2** and **CryoSure® LN2 10**.

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### Note

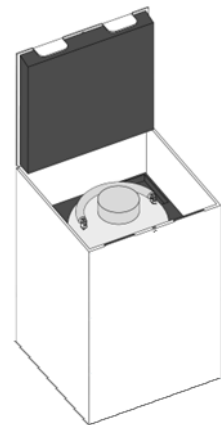
**This product shall be stored and transported in upright position!**

*You must at all times ensure to meet the safety instructions provided by the supplier of the dry shipper. These are made available under this [URL<sup>1</sup>](#) in chapter 2.*



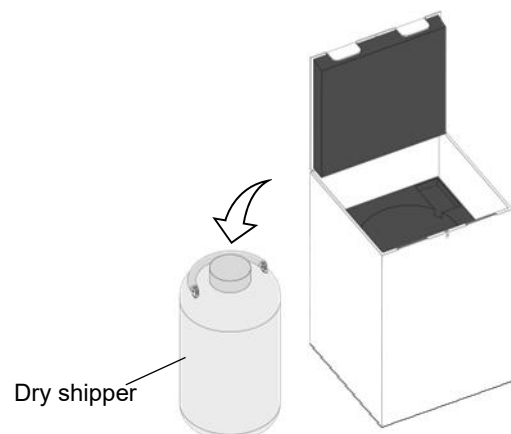
### Step 1

Open the top flap of the outer package of the CryoSure® LN2.



### Step 2

Remove the dry shipper from outer package and set the outer package aside.



<sup>1</sup> <https://api-en.cryopal.com/api/v1/media/documents/vCU5ZKYOFua3VlkGgZeQ9ocfWGTUC16aRIhdnidO.pdf>

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### Step 3

Liquid nitrogen should be handled by trained personnel only. Put on personal safety equipment when dealing with liquid nitrogen. Use oxygen meter if needed.



It is essential to use the approved individual protective equipment such as gloves, protective clothing, goggles, etc.



Beware of the temperature of frozen products as well as the cold parts of the devices.



Be careful not to damage the neck when inserting or removing the device's racks or canisters.

### Step 4

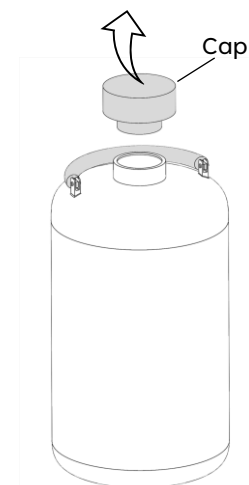
Note: The vacuum valve on the outside of the dry shipper must not be in contact with the liquid nitrogen during the filling process.



Vacuum valve

- Remove cap. Fill in liquid nitrogen to the shown filling level. Use appropriate equipment for the filling process, e.g. a hose attached to a liquid nitrogen tank.
- The following volume is considered as an indication for the required liquid nitrogen per dry shipper.

	<u>CryoSure® LN2 1</u>	<u>CryoSure® LN2 2</u>	<u>CryoSure® LN2 10</u>
<b>Volume</b>	10.0 litre	20.0 litre	30.0 litre

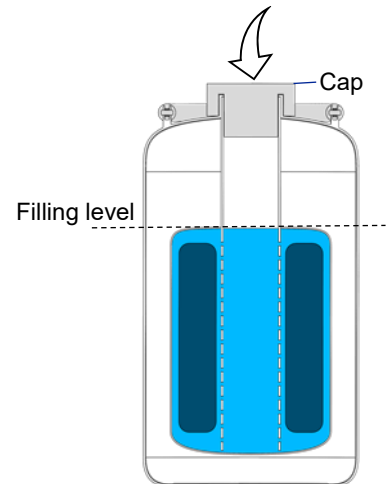


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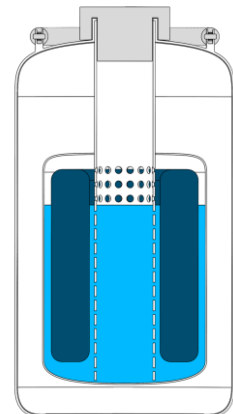
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- Put cap back on. Please note that it can occur that the cap is floating on the liquid nitrogen and is not unusual. Do not push the cap in that case.



### Step 5

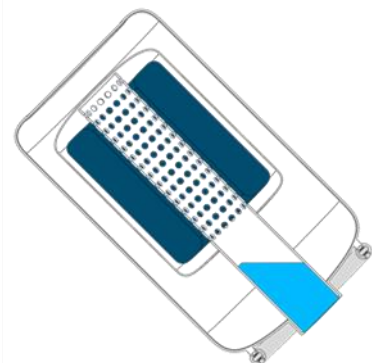
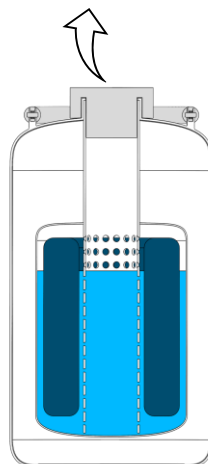
Wait at least 9 hours and maximum 48 hours for the porous material to absorb the liquid nitrogen



### Step 6

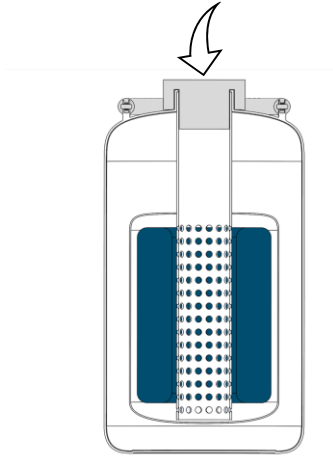
Note: The vacuum valve on the outside of the dry shipper must not be in contact with the liquid nitrogen during the disposing process.

Remove cap, dispose the excess liquid nitrogen by tilting the CryoSure® LN2.



Step 7

Put the cap back on.



Step 8

Weight the dry shipper. The target weights to reach are shown in the table below. Take care to follow the proper weighing details shown in the table below. The charging process is finished.

	CryoSure® LN2 1	CryoSure® LN2 2	CryoSure® LN2 10
Inclusive	<ul style="list-style-type: none"><li>Cap</li><li>Canister</li><li>Carrying Strap</li></ul>	<ul style="list-style-type: none"><li>Cap</li><li>Canister</li></ul>	<ul style="list-style-type: none"><li>Cap</li></ul>
Exclusive	<ul style="list-style-type: none"><li>Datalogger<sup>2</sup></li></ul>	<ul style="list-style-type: none"><li>Datalogger<sup>2</sup></li></ul>	<ul style="list-style-type: none"><li>Datalogger<sup>2</sup></li><li>Rack</li></ul>
Target weight [kg]	3.7 ±0.1	20.6 ±0.9	19.9 ±0.6
Target weight [lbs]	8.1 ±0.2	45.4 ±2.0	43.9 ±1.3



<sup>2</sup> Datalogger = Sensor + Logger

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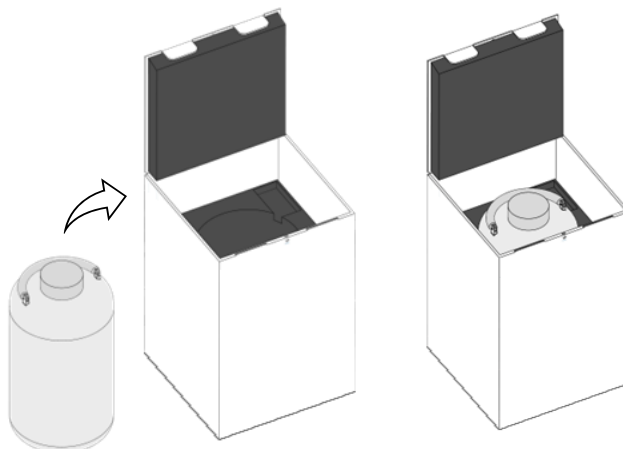
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### Step 9

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- Put the dry shipper back into the outer package.
- You can use the CryoSure® LN2<sub>now</sub> for loading the product. The loading procedure is described in the corresponding **CryoSure® LN2 handling instruction**.



For more information please contact [support@envirotainer.com](mailto:support@envirotainer.com)